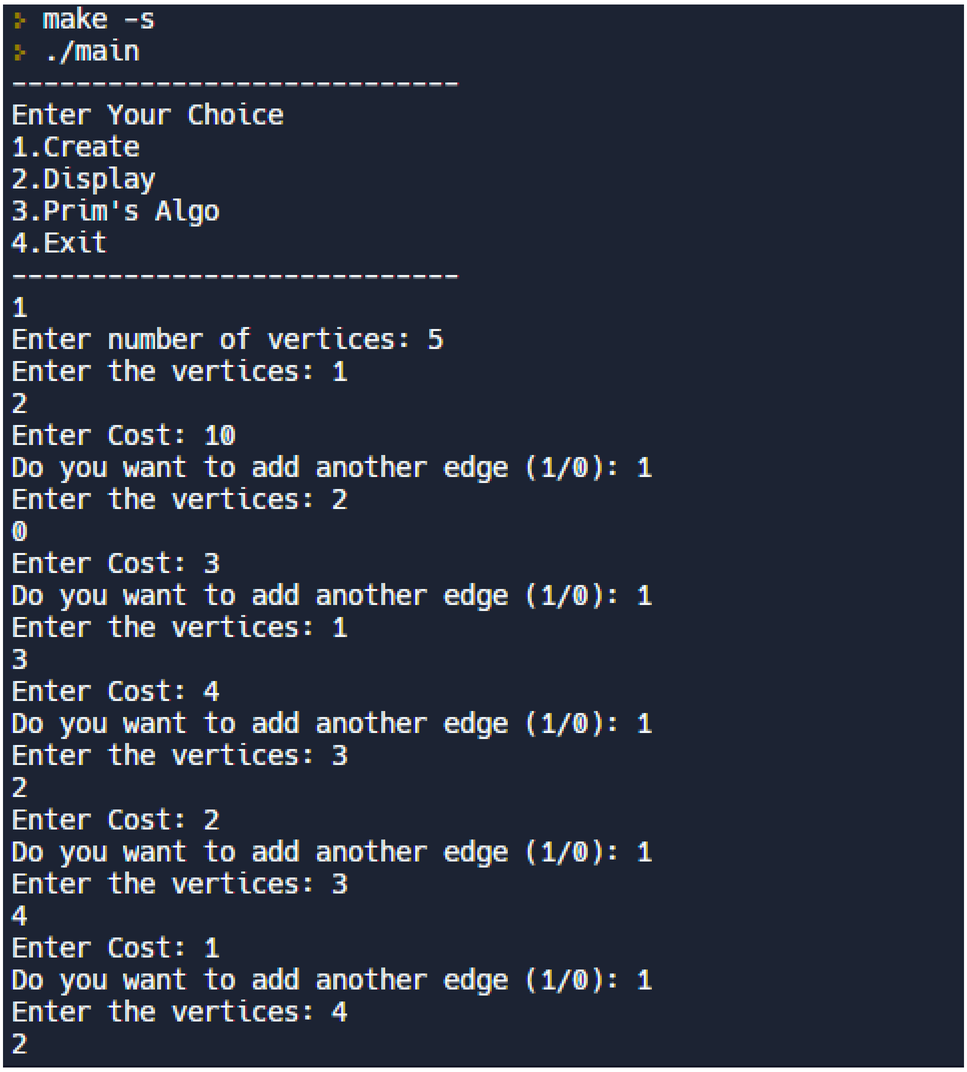
Code:-

```
#include<stdio.h>


void prims(int g[20][20],int n){
 int x,y,cost=0,min=99999,edge=0,selected[20]={};
 selected[0]=1;
 while(edge<n-1){
  min=99999;
  for(int i=0;i<n;i++){
   if(selected[i]==1){
    for(int j=0;j<n;j++){
     if(selected[j]==0 && g[i][j]>0){
      if(min>g[i][j]){
       min=g[i][j];
       x=i;
       y=j;
      }
     }
    }
   }
  }
  printf("%d : %d = %d\n",x,y,g[x][y]);
  selected[y]=1;
  cost+=g[x][y];
  edge++;
 }
 printf("Cost is : %d\n",cost);
```

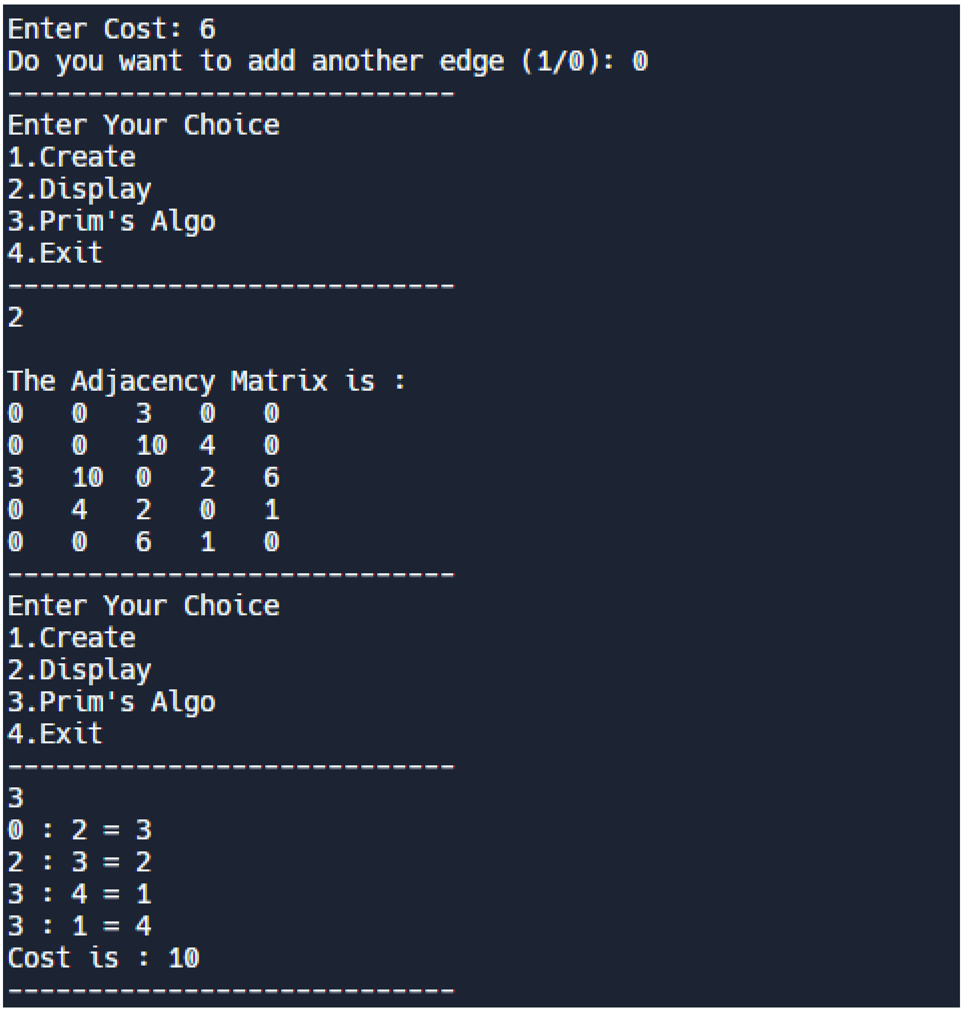
```
}

int create(int g[20][20],int n){
  int cost,v1,v2,c,flag=1;
  printf("Enter number of vertices: ");
  scanf("%d",&n);

  do{
    printf("Enter the vertices: ");
    scanf("%d %d",&v1,&v2);
    printf("Enter Cost: ");
    scanf("%d",&cost);
    if(flag==1){
      g[v1][v2]=cost;
      g[v2][v1]=cost;
    }
    else{
      g[v1][v2]=cost;
    }
    printf("Do you want to add another edge (1/0): ");
    scanf("%d",&c);
  }while(c==1);
  return n;
}

void display(int g[20][20],int n){
  printf("\nThe Adjacency Matrix is : \n");
  for(int i=0;i<n;i++){

    for(int j=0;j<n;j++){

      printf("%d \t",g[i][j]);

    }

    printf("\n");

  }

}


int main(){

  int g[20][20]={},n=4,c;


  do{

    printf("----------------------------\nEnter Your Choice \n1.Create\n2.Display\n3.Prim's Algo\n4.Exit\n---
-------------------------\n");

    scanf("%d",&c);


    switch(c){

      case 1:

        n=create(g,n);

      break;


      case 2:

        display(g,n);

      break;


      case 3:

        prims(g,n);

      break;
```

```
   }

  }while(c!=4);



  return 0;

}
```

Output:-



```
› make -s
› ./main
----------------------------
Enter Your Choice
1.Create
2.Display
3.Prim's Algo
4.Exit
----------------------------
1
Enter number of vertices: 5
Enter the vertices: 1
2
Enter Cost: 10
Do you want to add another edge (1/0): 1
Enter the vertices: 2
0
Enter Cost: 3
Do you want to add another edge (1/0): 1
Enter the vertices: 1
3
Enter Cost: 4
Do you want to add another edge (1/0): 1
Enter the vertices: 3
2
Enter Cost: 2
Do you want to add another edge (1/0): 1
Enter the vertices: 3
4
Enter Cost: 1
Do you want to add another edge (1/0): 1
Enter the vertices: 4
2
```



```
Enter Cost: 6
Do you want to add another edge (1/0): 0
----------------------------
Enter Your Choice
1.Create
2.Display
3.Prim's Algo
4.Exit
----------------------------
2

The Adjacency Matrix is :
0   0   3   0   0
0   0   10  4   0
3   10  0   2   6
0   4   2   0   1
0   0   6   1   0
----------------------------
Enter Your Choice
1.Create
2.Display
3.Prim's Algo
4.Exit
----------------------------
3
0 : 2 = 3
2 : 3 = 2
3 : 4 = 1
3 : 1 = 4
Cost is : 10
----------------------------
```